REMARKS

Claims 1-10 currently appear in this application. The Office Action of September 8, 2005, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicants respectfully request favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because the reference character "48" has been used to designate both a product and an optical cell in Figure 4d.

The present amendment amends the specification to use reference figure "47" for the product.

The drawings are objected to under 37 CFR 1.83(a), the Examiner stating that the drawings must show the method stems of the method and "transmitted luminescent and Raman scattering" must be shown.

Accordingly, Figure 5 is submitted herewith. Figure 5 is a data flow diagram showing the process of the present invention. It is respectfully submitted that this drawing includes no new matter, but merely shows in a flow diagram the process claimed herein.

Specification

The title of the invention is said to be not descriptive.

Accordingly, a new title is submitted herewith.

The abstract of the disclosure is objected to because it is too lengthy.

A new abstract of the disclosure is submitted herewith on a separate sheet.

Rejections under 35 U.S.C. 112

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

This rejection is respectfully traversed. The claims have been amended to define the subject matter for which patent protection is sought more clearly.

Support for the amendments to claim 1 can be found in the specification as filed at paragraph 31 on page 9 of the application as filed. That is, the signature of a known product is compared with the signature of an unknown product to determine if the unknown product is the same as the known product. That is, two signatures are compared, one for the known product, one for the unknown product.

With respect to claim 2, the physical meaning and functional relationship between the term "probing" and "analyzed radiation" as related to the invention overall becomes clear when one examines steps I-f in paragraph 31 on pages 11 and 12 of the specification as filed. The probing (incident) radiation is the light (optical radiation) prior to interaction with the analyzed product. Analyzed radiation is the light (optical radiation) after interaction with the analyzed product. One skilled in the art appreciates that the spectral ranges of the probing radiation, luminescent and Raman scattering may not match (see, for instance, C.A. Parker, *Photoluminescence of Solutions*, Elsevier, NY, 1968; J.R. Lakowich, *Principles of Fluorescence Spectroscopy*, Plenum Press, NY, 1983). Claim 2 has been amended to recite the types of radiation to which the material is transparent.

With respect to claim 10, the method of the present invention is applicable to all materials that have the collection of specified properties, *i.e.*, that contain components that absorb and/or emit light radiation. Claim 10 has been amended to recite that the product is selected from the group of products and/or materials that contain components absorbing and/or emitting light radiation.

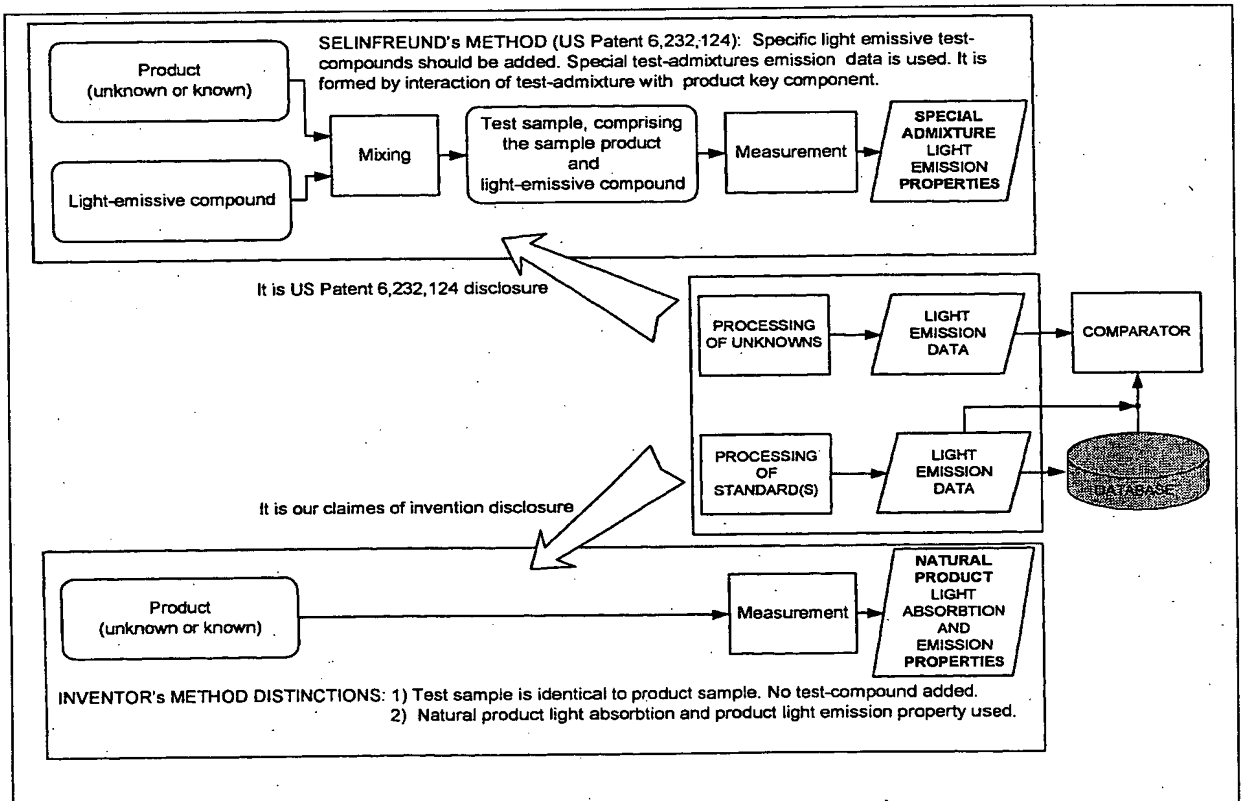
Art Rejections

Claims 1, 7, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Selinfreund.

This rejection is respectfully traversed. Selinfreund discloses automated fingerprint methods for product authentication, but these methods require the presence of at least one light-emissive compound (LEC). Both the unknown and the known are screened in combination with at least one LEC. In preferred embodiments, two and preferably three or more light-emissive compounds are used, and a fingerprint profile of several light-emissive compounds is compared to the corresponding emission intensities for the sample. The signatures obtained by Selinfreund are determined first by the radiation properties of light-emissive compounds and by particular features of its chemical interaction with certain components of the analyzed product. One cannot authenticate using the Selinfreund method without knowing the composition of at least the known (sample) product and establishing its key components, which react selectively with the chosen light emissive compounds.

In contrast thereto, the present invention is based upon a nondestructive **reagentless** method. The essence of the method is the experimental measurement of a characteristic set of spectral dependency values for transmitted light, luminescent light and Raman scattering, produced exclusively as a result of the electromagnetic radiation of the optical range of light with the analyzed product. The analyzed objects are not submitted to any other physical or chemical steps. In view of this fact, the signatures produced as a result of direct spectral measurements result exclusively from the properties of the analyzed product. At the same time, no preliminary information about the composition of the products compared is required to carry out the authentication.

The major differences between Selinfreund and the present invention are shown schematically in Figure 1, submitted herewith.


Product
(unknown or known)
Light-emissive compound
Mixing
Test sample, comprising the sample product and light-emissive compound
Measurement
SPECIAL ADMIXTURE LIGHT EMISSION PROPERTIES
It is US Patent 6,232,124 disclosure
PROCESSING OF UNKNOWNS
LIGHT EMISSION DATA
COMPARATOR
PROCESSING OF STANDARD(S)
LIGHT EMISSION DATA
DATABASE
It is our claimes of invention disclosure
Product
(unknown or known)
Measurement
NATURAL PRODUCT LIGHT ABSORBTION AND EMISSION PROPERTIES

SELINFREUND's METHOD (US Patent 6,232,124): Specific light emissive test-compounds should be added. Special test-admixtures emission data is used. It is formed by interaction of test-admixture with product key component.

INVENTOR's METHOD DISTINCTIONS: 1) Test sample is identical to product sample. No test-compound added.
2) Natural product light absorbtion and product light emission property used.

Fig 1. Fingerprint production methods comparison.

As shown in Figure 1, the only similarity of the method of the present invention and that of Selinfreund is the process of comparing the data obtained and database availability. However, these elements would be used in any identification or authentication method.

In contrast to the Examiner's assertion regarding what Selinfreund discloses, there is no procedure that can be characterized as "comprising sampling a representative series of randomly selected units of known products form a homonymous lot of known products manufactured in a single production cycle (lot) form identical raw materials." With respect to Figure 2, Selinfreund states, "Fig. 2 is a data flow diagram representing the overall processing in this system of the invention." **Standard samples are processed with selected compounds by first processing system 40 to produce light emission results 42.** It is possible that these light emission results could be stored in a database 44. Similarly, unknown samples are processed by a processing system 46 using the same selected compounds. **The processing system 46 produces light emission results 48, *i.e.*, a fingerprint for each unknown sample.**

As is clear from the above quote, Selinfreund does not assume or anticipate the need for "sampling a representative series of randomly selected units…" and, in general, does not discuss any methods of sampling. Moreover, Selinfreund wrote, "Specifically the term **"light emissive compounds"** as used herein, means compounds that have one or more of the following properties:

1. they are fluorescent, phosphorescent, or luminescent;
2. they interact with components of the sample or the standard or both to yield t least one fluorescent, phosphorescent, or luminescent compound in the sample, the standard, or both to alter emission at the emission wavelength."

It is clear from the above the Selinfreund defines the properties of the light emissive compounds used in this invention.

Claims 2-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selinfreund in view of Schnell et al. The Examiner concedes that Selinfreund does not disclose a transparent container. Schnell et al. are said to teach a similar method in which the unknown product is packaged in a transparent container. With respect to claim 9, the Examiner alleges that encoding data onto a card and attaching the card to a product is notoriously well known.

This rejection is respectfully traversed. The process of the present invention permits product authentication without breaking the original container. This option does not appear in either Selinfreund or Schnell et al. As discussed *supra*, the method of Selinfreund requires preparing a mixture of the product and a light-emissive compound. This mixing step cannot be effected without breaking the package integrity, even in the method combined with that of Schnell et al. Additionally, the combination of Selinfreund and Schnell et al. would not result in the present invention, as Schnell et al. disclose a measuring cell for an instrument into which a product sample is placed to carry out the measurement. This is not at all the same as the original container for product prepackaging and storage, such as a glass jar, bottle, box, etc. Schnell et al. have nothing at all to do with analyzing packaged commercial products, but disclose cells for instrumental measurement wherein the cell walls must be transparent to the radiations used for measurement. There is nothing in Schnell et al. that would lead one skilled in the art to prepare commercial packaging in the same way as a cell.

A combination of Schnell et al. and Selinfreund would be a mixture of a product and a light-emissive compound disposed in a cell having walls transparent to radiation sued for measuring. The present invention does not use a light-emissive compound, and the product is contained in a commercial-type container, not a measuring cell.

With respect to claim 9, applicant concedes that encoding data onto a card and attaching the card to a package is notoriously well known. However, the advantages and disadvantages of such a bar code system are discussed in the Background of this invention (see, for instance, paragraph 3, page 1 *et seq.*). The bar code system does not contain information about the composition of the coded product, only that the product in the package is alleged to be a product identified by such a bar code. The allocation of special cards or tags on commercial containers that would bear such easily readable signatures of the present invention would unambiguously and demonstratively guarantee that the component in the package has the signature of the product it is supposed to be. This is not at all the same as a bar code, which merely gives an indication of the contents of the package, but does not guarantee that the product is exactly the same as what it is purported to be. The signature of a product obtained by the present invention can easily be combined with bar coding, and would enhance the identification of the product in the container. The availability of such information on product tags is one of the main steps in implementing modern automated product control systems, particularly for identifying counterfeit or inferior goods.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant

By: Anne M. Kornbau
Anne M. Kornbau
Registration No. 25,884

AMK:srd
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528
G:\BN\I\Igor\Nekrasov1\Pto\AMD 08 DEC 05.doc

Amendments to the Drawings

The attached sheet of drawings, include new Figure 5. Figure 5 is a data flow diagram showing the process of the present invention.

Attachment: New Sheet